Work Orde Monday, Septem										Page
Item ID: Revision ID: Item Name: Start Date: Required Date: Reference:	D212-664-20 Crosstube Lov 9/20/2010 10/4/2010			Accept	Cust Item II Customer:		.Ser	tup Start Stop		
Approvals:	Process Pla	n:	Date:	Tooling: SPC (Y/N):	Da Da		Ru	n Start Stop]	
Sequence ID/ Work Center II		Operation Description		Set Up/ Run Hours	Tool ID				Reject Number	Insp. Stamp
Draw Nbr D212-664-247		ision Nbr B		244.2204.6	THE STATE OF THE S		•		Number	Stamp
DC Document Control		DOCUMENT CONTROL Memo Photocopy bl	uefile and create labels a	0.00 0.00 us per PPP D212-664-207	encool Solul	8	Kil	N BG	(10	11/08
110 Packaging Packaging		Pick Kit Packaging Memo		0.00			Œ,	10-10	-7.	_ Â
120		£ 15		0.00		-			•	

CNC Bend 2

BENDING MACHINE - CROSSTUBES

CNC Alpha 160 Bender

NDING MACHINE - CROSSTUBES

Memo

0.00

Bend tube as per Dwg D212-664-247 using CNC bender program and Folio

FT

(0-10-07

	space	

Ŵ/O:		WORK ORDER CHANGES			-
DATE	STEP	PROCEDURE CHANGE By Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
· * ·					140
					·
Part No		PAR #: Fault Category: NCR: Yes No D	QA:	Date:	:

Disposition:

Date: ___

QA: N/C Closed: ____

NCR:				W	ORK OR	DER NON-	CONFC	RMANC	E (NCR)		:	
DATE	STEP			· · · · · · · · · · · · · · · · · · ·	Initial	Corrective Action Section B. Sign &			Verification Section C	Approval Chief Eng	Approval QC inspector	
•		4	Jection A		Chief Eng		Chief Eng	** 1	Date	Jection C	Office Eng	QO mapeetor
		₩.	· · · · · · · · · · · · · · · · · · ·				•			17	les .	
-		·					•		•	1		
·		•		ì		•						
-				;					-	·		
				•	**							
		·										
			•									

NOTE: Date & initial all entries

Resolution:

Required Date: 10/4/2010

Page 2

Item ID:

Monday, September 20, 2010 10:36:26 AM

Accept



Setup Start

Stop



Revision ID:

Item Name:

Crosstube Low Standard Aft

.

QC:

D212-664-207

Start Date:

9/20/2010

Start Qty: 1.00

Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Αn	proval	ls:
4.4	prova	•

Process Plan:

Date: Date:

Tooling:

SPC (Y/N):

Date:

Run Start

Stop



Sequence ID/ Work Center ID

130



QC

Quality Control

Operation Description

QC15- Crosstube Dimensional Check

Memo

Set Up/ **Run Hours**

0.00

0.00

0.00

8 10holox

Tool ID

Date:

Tool # Plan Code

Accept Qty

Reject Qty

Reject Insp. Number Stamp

140



Crosstubes

Crosstubes

Memo

1-Drill Rivet holes as per Dwg D212-664-247 using DT8972.***Use T-Pin***

2-Drill pilot holes in tube as per Dwg D212-664-247 using DT8550 and DT8551

3-Ream hole to finish size in tube as per Dwg D212-664-247

4-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-247

5-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-

W/O:	•		WO	RK ORDER CHANG	SES		· · · · · · · · · · · · · · · · · · ·		.4
DATE	STEP	PR	OCEDURE CHAN	NGE	Ву	D	ate Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
									•
									
Part No	•	PAR #:	Fault Categ	jory:	NCR: Ye	s No	DQA:	Date: _	
	Reso	olution:	Disposition):	_ QA: N/C	Close	ed:	Date: _	
NCR:			WORK ORDE	R NON-CONFORM	ANCE (N	CR)			
DATE	STEP	Description of NC			tion B	_ 0	Verification		Approval
	0.2.	Section A	Initial Chief Eng	Action Description Chief Eng	Sig Da		Section C	Chief Eng	QC Inspector
				The state of the s			T		
									16°

Work Ord Monday, Septen										_		Page 3
Item ID: Revision ID: Item Name:	D212-664-2	07 w Standard Aft		Accept					Setup St	tart Stop		
Start Date: Required Date: Reference:	9/20/2010	Start Qty: 1.00 Req'd Qty: 1.00			Cust Item 1 Customer:	D:			5			
Approvals:	Process Pla	an:	Date:	Tooling: SPC (Y/N):		ate:]		tart Stop		111
Sequence ID/ Work Center II 150 HandFXtube Hand Finishing Cro		Operation Description Crosstubes Chemical Co Memo Chemical C	onversion onversion Coat Tube & 6	Set Up/ Run Hours 0.00 0.00	Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty		eject umber	Insp. Stamp
160 QC Quality Control		QC3- Inspect Part Finisl	1	0.00	10/13							

170 |||||||||||||||||||||||||||||||||||QC

QC5- Inspect part completeness to step on W/O

Quality Control

Memo

W/O:		WORK ORDER CHANGES												
DATE	STEP	PRO	CEDURE CH	ANGE	Ву	,	Date Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector					
									,					
Part No	•	PAR #:	Fault Cat	tegory:	_ NCR: Y	es N	o DQA :	Date: _						
	R	esolution:	Dispositi	ion:	QA: N/0	Clos	sed:	Date: _						
NCR:		V	VORK ORI	DER NON-CONFORM	ANCE (N	CR)								
DATE	STEP	Description of NC	Initial	Corrective Action Sec Action Description	ction B	gn &	Verification		Approval					
		Section A	Chief Eng	Chief Eng		ate	Section C	Chief Eng	QC Inspector					
د خب														
				·				·	:					
						:								
	:													

Work Order ID 62179

Monday, September 20, 2010 10:36:26 AM



Page 4

Item ID:

D212-664-207

Accept

Accept

Qty

Setup Start

Stop



Revision ID:

Item Name:

Required Date: 10/4/2010

Crosstube Low Standard Aft

Start Date:

9/20/2010

Start Qty: 1.00

Req'd Qty: 1.00



Cust Item ID:

Customer:

Date:

Date:

Tool # Plan

Code

Reference:

Approvals:

QC:

Process Plan: _____ Date:

Operation

Description

Date: _____

Tooling:

SPC (Y/N):

Set Up/

0.00

0.00

Run Hours

Tool ID

Run

Start

Stop

Sequence ID/ Work Center ID

180

Outsource2

Outsource process - NDT

Memo

Outsource process - NDT per OSI038 4.1

Liquid Penetrant Inspection as per QSI 038

Issue P/O: 12 7 40 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order

190

Packaging

Packaging

Receive & Inspect for Damage & Mat'l Certs

Packaging

Memo

0.00

0.00

Ensure copy of NDT results attached to work order.

200

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Inspect for damage & ensure results are as per Dwg D212-664-207

Reject

Number

Insp. Stamp

Reject

Qty

10/10/14 0

//a//e/ 17 (b)

PT 10-10-15

Dart Ae	ospace	Ltd								٠ *
W/O:			W	ORK ORDER CHAI	NGES					•
DATE	STEP	PRO	CEDURE CHA	NGE		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
										,
		PAR #:	Fault Category: NCF				No DQ	A:	Date:	
	R	esolution:	Disposition:			: N/C Cld	sed:	Date:		
NCR:		V	ORK ORD	ER NON-CONFOR	MANCI	(NCR)			
		Description of NC		Corrective Action	Section B		Verific	cation	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	on	Sign & Date	Secti		Chief Eng	QC Inspector
. *			1				1			

Work Orde											Page	5
Item ID: Revision ID: Item Name:	D212-664-2	207 ow Standard Aft		Accept				Setup	Start Stop			
Start Date: Required Date: Reference:	9/20/2010 10/4/2010	Start Qty: 1.00 Req'd Qty: 1.00			Cust Item I Customer:	D:		·		1 1 23 551 2 5 2	1818 11 8 1181 1381	
Approvals:	Process Pl QC:	an:	Date:	Tooling: SPC (Y/N):		ate:		Run	Start Stop			
Sequence ID/ Work Center II 210 Crosstubes Crosstubes)	D212-664-2	assemble Cuffs with T-P 247. with Sika flex in Bet AFLEX -241/-291 BAT	Set Up/ Run Hours 0.00 0.00 in in the through bolt hole ween tube & Cuff CCH: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Tool ID	Tool # Pla Co	de Qty		eject ty	Reject Number	Insp. Stamp	_ (



Quality Control

QC5- Inspect part completeness to step on W/O

Siolulos

Memo

Inspect cuff with T-Pin

W/O:	.		WC	ORK ORDER CHANG	GES				
DATE	STEP	PRO	OCEDURE CHA	NGE	Ву	,	Date Qt	Approval Chief Eng / Prod Mgr	Approval QC Inspector
									•
								j	
Part No		PAR #:							
	Res	olution:						Date: _	
NCR:			WORK ORD	ER NON-CONFORM	ANCE (N	CR)			
DATE	STEP	Description of NC		tion B		Verificatio	n Approval	Approval	
DAIL	SILF	Section A	Initial Chief Eng	Action Description Chief Eng		gn & ate	Section C	Chief Eng	QC Inspector
				•					
				·					

Work Order ID 62179

Monday, September 20, 2010 10:36:26 AM



Page 6

Item ID:

D212-664-207

Accept



Setup Start

Stop



Revision ID:

Item Name:

Required Date: 10/4/2010

Crosstube Low Standard Aft

Start Date:

9/20/2010

Start Qty: 1.00

Req'd Qty: 1.00

Cust Item ID: Customer:

Tool ID

Reference:

Approvals:

Process Plan:

Date: _____ Tooling:

SPC (Y/N):

Set Up/

Run Hours

Date:

Date:

Tool # Plan

Code

Stop

Reject

Qty

Run

Accept

Qty



Insp.

Stamp

Reject

Number

Sequence ID/ **Work Center ID**

220

SprayPaint **Spray Painting** Operation Description

Spray Painting per QSI005 4.2

SprayPaint

0.00

0.00

1-Prime inside and outside crosstube as per QSI 005 4.2

Date:_____

2-Paint outside crosstube with White Imron as per QSI 005 4.2

PRIME:

Start Time: 10900 Fininsh Time: 10:30

PAINT:

Start Time: 2-30 Finish Time: 3:00

230

QC14- Inspect Spray Paint

0.00

Quality Control

Memo

Wrap in plastic bag to protect from scratches

0.00

TT 10-11-05

Duit Ac	ospace L	.tu	•						
W/O:			WO	RK ORDER CHANG	ES				•
DATE	STEP	PROC	EDURE CHAI	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
									4
•						·		, (<u></u>	
Part No	:	PAR #:	Fault Categ	gory:	NCR: Yes	No DQ	A:	Date: _	
	Resolution:		Disposition):	_ QA: N/C CI	osed:		Date: _	
NCR:		· Wo	ORK ORDE	R NON-CONFORMA	NCE (NCR	()			
	T	Description of NC		Corrective Action Section		Verific	ation	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date		Verification Section C		QC Inspector
		į,							

Work Orde Monday, Septem													Page 7
Revision ID:	D212-664-20 Crosstube Low				Accept					Setup	Start Stop	1 1884441 11	
	9/20/2010	Start Qty: 1.00 Req'd Qty: 1.00				Cust Item I Customer:	D:					 	ELE HE (LEI IREI
Approvals:	Process Plan	n:			Tooling: SPC (Y/N):		ate:			Run	Start Stop		1 1 1 1 1 1 1 1 1 1
Sequence ID/ Work Center II 240)	Operation Description Crosstubes			Set Up/ Run Hours 0.00	Tool ID	Tool#	Plan Code	Accept	Rej Qty		Reject Number	Insp. Stamp
Crosstubes Crosstubes		2- Light with 410 3- Instal)58 wash 'n' wipe	d area using a	0.00 7 a 320 grit sand paper and 8 per dwg D212-664-247,	clean the area			·		_1.0_		05 ()
		Time & Batch:_ EXP. Da	date of application	n: 9:45,	<u> </u>								



Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

W/O:			\\/	ORK ORDER CHAN	GES					-
DATE	STEP	PRO	OCEDURE CH		By	,	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
									1 Tod Wigi	
Part No	•	PAR #:	Fault Cat	egory:	NCR: Y	es N	o DQ	A:	_ Date: _	
	R	esolution:	Dispositi	on:	QA: N/0	Clos	sed:		Date: _	***
NCR:			WORK ORE	DER NON-CONFORM	MANCE (N	CR)				
		Description of NC		ection B		Verific	ation	Approval	Approval	
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng				on C	Chief Eng	QC Inspector
					2					
							,			
					<u> </u>					
						•				
										:

Work Order ID 62179

Monday, September 20, 2010 10:36:26 AM



Page 8

Item ID:

D212-664-207

Accept



Setup Start



Revision ID:

Item Name:

Crosstube Low Standard Aft

Start Date:

9/20/2010

Start Qty: 1.00

Req'd Qty: 1.00



Date:

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

SPC (Y/N):

Date:

Date:

Run

Start

Stop

Stop



Sequence ID/

Required Date: 10/4/2010

Work Center ID

255

Packaging

Packaging

Operation Description

Pick Kit

QC: ____

Memo

Set Up/ **Run Hours**

0.00

0.00

Tool ID

Tool # Plan Code

Accept Qty

Reject Qty

Reject Insp. Number Stamp

260

QC

Quality Control

QC4- 100% Inspect kits for completeness



Packaging Packaging

Packaging

0.00

Memo

Memo

Identify and pack for shipping as per PPP D212-664-207

W/O:			W	ORK ORDER CHAN	GES							
DATE	STEP	PRO	OCEDURE CHA	NGE		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector		
				•						•		
				and the second s								
Part No	:	PAR #:	gory:	NCR: Yes No DQA: Date:								
	Re	esolution:	Dispositio	n:	QA:	N/C Clo	sed:		Date: _			
NCR:			WORK ORD	ER NON-CONFORM	MANCE	(NCR)						
DATE	STEP	Description of NC	Corrective Action Section			0: 0	Verific	cation	Approval	Approval		
DAIL	SIEP	Section A	Initial Chief Eng	Action Description Chief Eng	n	Sign & Date	Sect	ion C	Chief Eng	QC Inspector		
		Fa-16-00										

Work Order ID 62179

Monday, September 20, 2010 10:36:26 AM



Page 9

Item ID:

D212-664-207

Accept

Setup Start

Stop



Revision ID:

Item Name:

Crosstube Low Standard Aft

Start Date:

9/20/2010

Start Qty: 1.00

Required Date: 10/4/2010

QC:

Req'd Qty: 1.00



Date: _____

Cust Item ID: Customer:

Tool ID

Reference:

		_	
Δn	nra	vals:	
	טגעו	vais.	

Process Plan:

Date:

Tooling:

SPC (Y/N):

Date:

Date:

Start

Sequence ID/

Work Center ID

280

QC

Quality Control

Operation Description

QC21- Final Inspection - Work Order Release

Memo

Set Up/ **Run Hours**

0.00

0.00

Run

Stop

Accept Tool # Plan Code Qty

Reject Qty

Reject Number

Insp. Stamp

Dart Aerospace Lt

W/O:			W	ORK ORDER CHANG	GES					-
DATE	STEP	PRO	OCEDURE CH	ANGE		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
									3	
										· . •
Part No	:	PAR #:	Fault Car	tegory:	_ NCI	R: Yes	No DQA			
	R	esolution:	Disposit	ion:	QA:	N/C CId	osed:		Date:	
NCR:				DER NON-CONFORM					C .	
D.175 07-5		Description of NC			tion B		Verifica	ation	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng		Sign & Date	Sectio		Chief Eng	QC Inspector

Picklist Print

Monday, September 20, 2010 10:36:31 AM

Work Order ID: 62179

D212-664-207

Parent Item Name: Crosstube Low Standard Aft



Start Date: 9/20/2010

Required Date: 10/4/2010

Start Qty: 1.00

Required Qty: 1.00

Comments:

Parent Item:

IPP Rev:A New Issue 07.09.12 EC verified by: JLM

IPP Rev:B ECN 1100p 08-01-11 DD verified by: EC IPP Rev:C ECN 1121 08-02-25 DD verified by:eC

IPP Rev. D. OC5 replaced by OC15 at step 5. K.I. Varified by an

J.	PP Rev: D QC5 r	eplaced by QC15 a	it step :	5 KJ Verified	by: ec								
Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D212-664- 207TRNRevA		Manufactured	No		_	110	Each	0.0000	1	1			
Crosstube Turning Detail					B51	/377				A	10-10	>-7	
D3660-1 		Manufactured	No			140	Each	6.0000	2	2 E Z	10	-10-7	,
				Location		Loc	Qty	Loc Code					
				ST477			6						
CD2212 4 06					53501		6			_2_	_		
CR3212-4-06		Purchased	No			220	Each	1,265.000) 44 	44	M	10 11	1 112

CHERRY RIVET

Location	Loc Oty	Loc Code
ST311	1265	
112492	156	
112612	109	
112724	200	
112794	800	

W 10 11 03

	•								
W/O:			W	ORK ORDER CHANG	iES				7
DATE	STEP	PRO	OCEDURE CHA	ANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
								1 Fod Wigi	
Part No	•	PAR #:	Fault Cate	egory:	NCR: Yes	No DQ	4 :	Date:	
	Re	esolution:	Disposition	on:	QA: N/C CI	osed:		Date:	
NCR:			WORK ORD	ER NON-CONFORM	ANCE (NCF	R)			
		Description of NC		tion B	Verific	ation	Approvai	Approval	
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C		Chief Eng	QC Inspector
									• • •
				V					
					r				
		•							

Picklist Print Monday, September

Monday, September 20, 2010 10:36:31 AM

Work Order ID: 62179										
Parent Item: D212-664-207						H				
Parent Item Name: Crosstube Low Star	ndard Aft		9 (8 1 1 1 1 1 1 1 1 1 1			El .	s	tart Date: 9	/20/2010	Required Date: 10/4/2010
								Start Qty: 1		Required Qty: 1.00
D3595-063-530	Manufactured	No			240	Each	73.0000	4	4	required Qty. 1.00
RUBBER CUSHION					2.0	Edon	73.0000		4	M 10-11-05
			Location	<u>on</u>	Lo	c Qty	Loc Code			
			FP			36				
				50030		12				_
				51776		24				_
			LG			37				-
D2940-1		N	-	59581		37				
	Manufactured	No			240	Each	37.0000	2	2	m/ 10 11 05
Support			Location	Ωn	Lo	e Oty	Loc Code			
			LG	<u>on</u>	<u>150</u>	37	Loc Code			
			20	45203	•	1				_
				57338		16				_
				60271		20				_
MS21920-28	Purchased	No			240	Each	65.0000	4	4	/
Clamp(per MIL-DTL-8783C)										M/ 10 11 05
			Location	<u>on</u>	Lo	c Qty	Loc Code			
			FG			5				_
				105884		5				
			LG			60				_
				112863		12				
D3428-1	Manufactured	Mo		114749	266	48	0.0000			- <i>/)</i>
	ivianutactured	No			255	Each	0.0000	1 	$\frac{1}{2}$	0. J/a//

Monday, September 20, 2010 10:36:31 AM

Placard

-		— - - -							
W/O:			WO	RK ORDER CHANG	ES				Ņ
DATE	STEP	PRO	OCEDURE CHAI	IGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
									•
)	
						-			
									·
Part No	rt No: PAR #: Fault Category: NCR: Yes No DQA: Date Resolution: Disposition: QA: N/C Closed: Date								
NCR:			WORK ORDE	R NON-CONFORMA	ANCE (N	CR)			
DATE	STEP	Description of NC	L		ion B	Ve	rification	Approval	Approval
DAIL	SIEP	Section A	Initial Chief Eng	Action Description Chief Eng			Section C	Chief Eng	QC Inspector
					1				
				e e e e e e e e e e e e e e e e e e e					

Picklist Print

Monday, September 20, 2010 10:36:31 AM

Work Order ID: 62179

Parent Item:

D212-664-207

Parent Item Name: Crosstube Low Standard Aft

Purchased

Purchased

Purchased

No

No

No

No



Start Date: 9/20/2010

Required Date: 10/4/2010

Page 3

Start Qty: 1.00

Required Qty: 1.00

MS21042L6

Nut	

NAS1149D0663J Purchased AN960JD616 Washer

AN6-40A Bolt

AN6-41A Bolt

Location Loc Qty ST300 268 111578 114495 64 200

255

255

Each

Each

115300

255 Each 87.0000

0.0000

268.0000

Loc Code

18

18

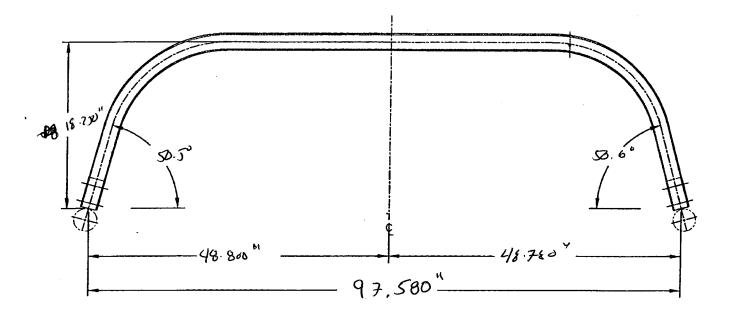
Location Loc Qty Loc Code ST343 87 112828 1 114283 26 115300 60 255 Each 62.0000

Location Loc Qty Loc Code ST344 62 32 115316 30

	•									
W/O:			WO	RK ORDER CHANG	GES					•
DATE	STEP	PRO	PROCEDURE CHANGE					Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
										•
		•		·						
Part No	•	PAR #:	Fault Categ	ory:	NCR:	Yes	No DQ	A:	Date:	
	Re	esolution:	Disposition	:	QA: N	I/C Cld	osed:		Date:	
NCR:			WORK ORDE	R NON-CONFORM	ANCE (NCR)			
DATE	CTED	Description of NC	Corrective Action Se				Verific	Verification	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng		Sign & Date	Secti		Chief Eng	QC Inspector
				÷						
					,	· ·				

DART AEROSPACE LTD	Work Order:	62179
Description: Crosstube Low Aft (205/212)	Part Number:	D212-664-207
Inspection Dwg: D212-664-247 Rev: B		Page 1 of 1

Required Dimension	Min	Max	
Height	18.16	18.42	
1/2 Span	48.55	48.81	
Angle	49	52	
Total Span	97.1	97.62	



Commer	nts	

_	Commer	Comments

QC15 Inspection	8
Date	10/10/29-

Rev	Date	Change	Revise	d by	Approved
Α	08.02.29	New Issue	KJ/JM	. ^	2
В	10.04.01	Dwg Rev updated	KJ	**	//
			-	\mathcal{O}	

W/O: WORK ORDER CHANGES							
DATE STEP		PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
					[
	.1				1	<u> </u>	1

Part No:		PAR #:	Fault Category:	NCR: Yes No	DQA:	Date:
	Resolution:		Disposition:	QA: N/C Closed	d:	Date:

	· · · · · · · · · · · · · · · · · · ·	WORK ORD	ER NON-CONFORMANC	E (NCR)			
	Description of NC		Corrective Action Section B			Annroyal	Approval
STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector
-							
	STEP	STEP Description of NC	STEP Description of NC Section A Initial	STEP Description of NC Corrective Action Section B Initial Action Description	STEP Description of NC Section A Initial Action Description Sign &	STEP Description of NC Initial Action Description Sign & Verification Section C	STEP Description of NC Section A Initial Action Description Sign & Verification Section C Chief Eng

3.均1

Item	Qty -247	Qty -247B	Part Number	Description
1	X		D212-664-247	CROSSTUBE ASSEMBLY (205/212 LOW AFT)
2		Х	D212-664-247B	CROSSTUBE ASSEMBLY (214 LOW AFT)
3	1	1	D6008-132	CROSSTUBE
_ 4	2	2	D2940-1	SUPPORT
5	4	4	D3595-063-530	RUBBER CUSHION
6	2	2	D3660-1	CUFF
7	4	4	MS21920-28	CLAMP (OR MS21920-30)
8	44	44	CR3212-4-06	RIVET (OR M7885/3-4-06)
9	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
10	A/R	A/R	SIKAFLEX-241/-291	SEALANT (OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT)

GENERAL NOTES:

1) MATERIAL: MANUFACTURED FROM D6008-132

FINISHED LENGTH = 128.268±0.020 (BEFORE BENDING/TRIMMING) 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2

PAINT OUTSIDE PER DART QSI 005 4.2 TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.

UNITS: INCHES UNLESS OTHERWISE NOTED.

UNITS: INCHES UNITEDS OF THE WHOLE WAS TELL.
BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.

7) WEIGHT: D212-664-247 = 36.6 lbs (PER IIN-D212-664)

D212-664-247B = 36.6 lbs (PER IIN-D212-664)

PART IS SYMMETRIC ABOUT CENTERLINE.
WHEN MACHINING TAPER, RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALY, TRANSITION SHOULD

10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D., EXCEPT UP TO 10% IS ALLOWED IN AREA NOTED.

11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.

12) INSTALL D2940-1 SUPPORTUSING 0.03* TO 0.06* THICK LAYER OF MACNOBOND 6398 TO THE SURFACE OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER

- INSTALLATION AND PRIOR TO PACKAGING.

 13) INSTALL MS2 1920-28 CLAMPS (OR 3.0) WITH DS2595-063-530 RUBBER CUSHIONS TO SECURE THE D2940-1

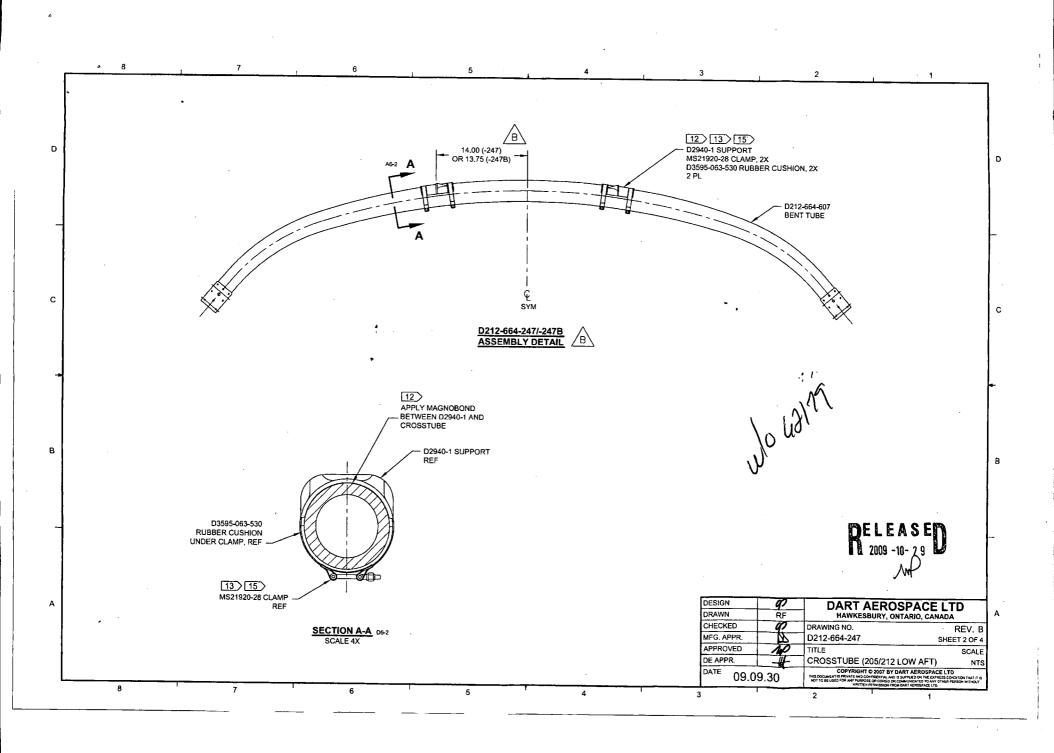
 SUPPORTON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.

 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.
- 16) INSTALL D3660-1 CUFF AFTER CHEMICAL CONVERSION COAT BUT BEFORE PAINT, WITH A LAYER OF SIKAFLEX-241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT BETWEEN CUFF AND CROSSTUBE. SEAL EDGE OF CUFF TO ENSURE NO GAPS.
- 17) TOUCH-UP HOLES WITH CHEMICAL CONVERSION COAT.

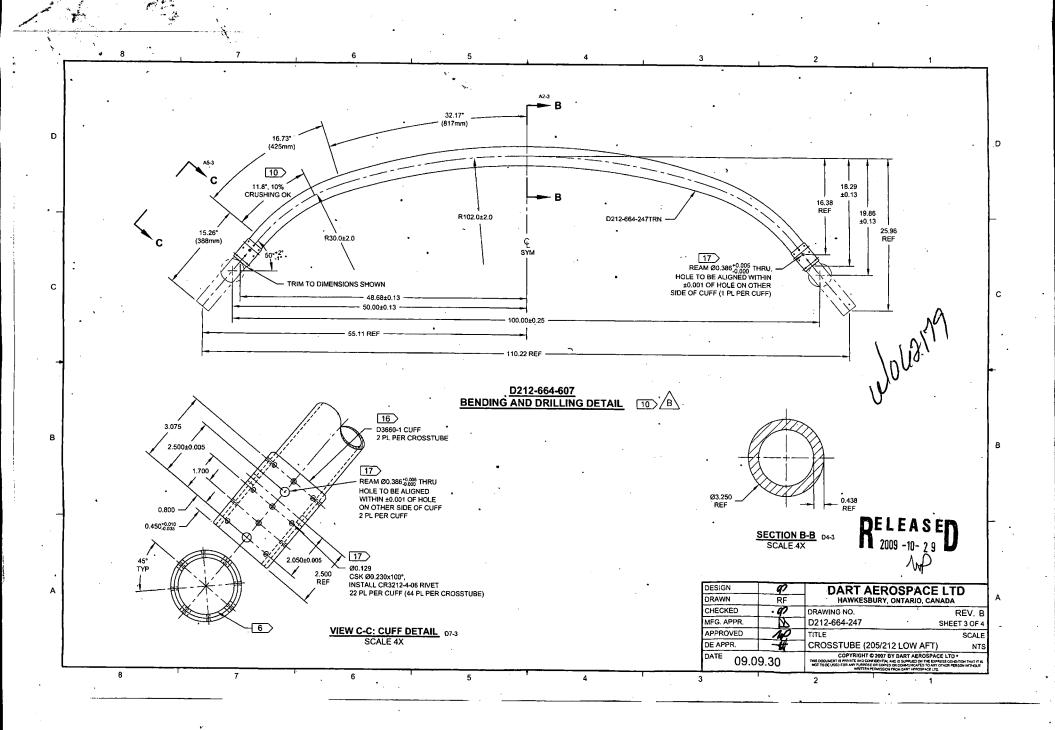
SHOWCEL ! RELLINE ENGINETT UNCONTROLL SUBJECT TO AND WITHTITM

В		GENERAL N	RF	09.09.30		
A	NEW IS	SSUE		CP	07.07.07	
REV.			DESCRIPTION	BY	DATE	
DESIGN		P	DART AEROSP	ACE	LTD	
DRAWN		RF	HAWKESBURY, ONTAR	IO, CAN	IADA	
CHECK	D	9	DRAWING NO.		REV. B	
MFG. AF	FG. APPR.		D212-664-247		SHEET 1 OF 4	
APPRO	√ED	/ED AD TITLE			SCALE	
DE APP	R.		CROSSTUBE (205/212 LOW AFT)			
DATE	09.0	9.30	COPYRIGHT © 2007 BY DART A THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIE HOT TO BE USED FOR ANY PURPOSE OR COMPAND ON COMMENT A WISTITEM PERMISSION FROM DART A	DON THE EXP	HESS CONDITION THAT IT IS	

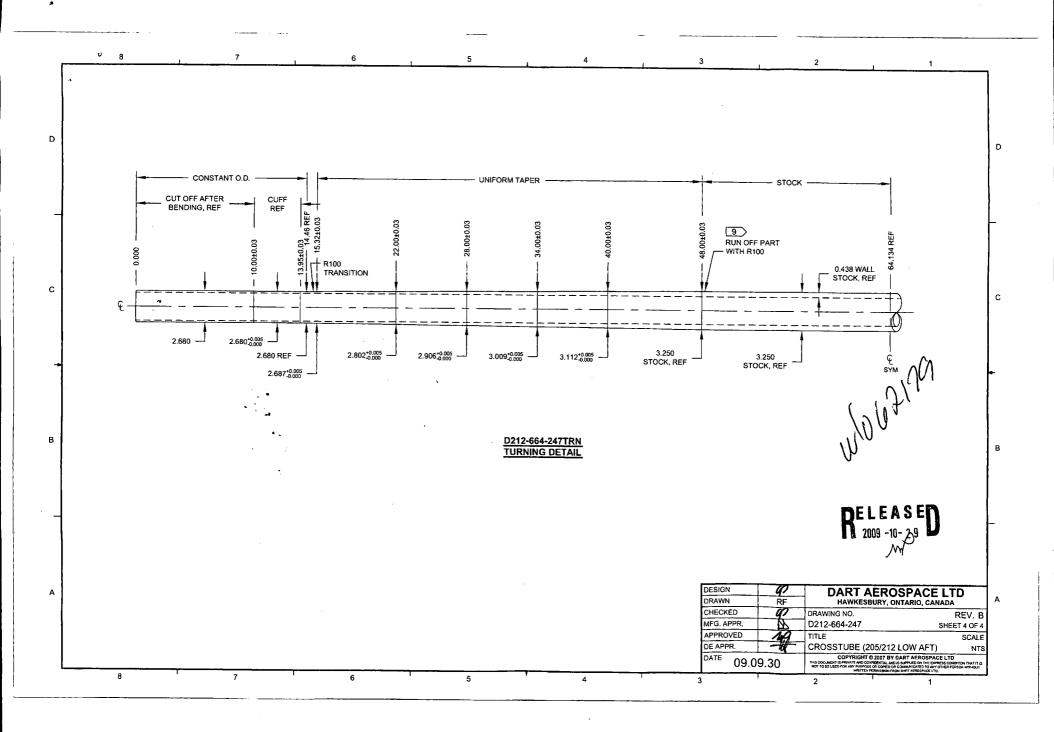
Dart Ae	rospace	Ltd								2
W/O:			W	ORK ORDER CHAN	GES					•
DATE	STEP					Зу	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC-Inspector
								į		•
								•		
Part No	:	PAR #:	Fault Cate	egory:	NCR:	Yes N	o DQ .	A:	Date: _	
	Re	esolution:	Dispositio	on:	QA: N	/C Clos	sed:		Date: _	
NCR:			WORK ORD	ER NON-CONFORM	MANCE (NCR)				
		Description of NC		-	ection B		Verific	eation	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng		Sign & Date	Secti		Chief Eng	QC Inspector
						٠				



					•						
W/O:			٧	VORK O	RDER CHAN	GES			3	,	***
DATE	STEP	PROC	CEDURE CI	HANGE			Ву	Date	Appr Chief Prod	Eng /	Approval OC Inspector
							·				•
											•
		·			·	*					
				•							
			,			4	-				
			<u> </u>			···					
Part No	:	PAR #:	_ Fault Ca	itegory:		NC	R: Yes	No DQA :	Da	ıte:	
		esolution:									
NCR:		W	ORK OR	DER NO	N-CONFORM	MANCE	(NCR)		-	
DATE	OTED	Description of NC						- Verificat	ion Appr	roval	Approvat
DATE	STEP	Section A	Initial Chief Eng	Ac	tion Description Chief Eng		Sign & Date	Section			QC Inspector
			· · · ·						į		
					•		4				
				,					~ .		
,											- <u>-</u>
				,							
					•						
										l	
				,	•						,
,										l	



						<u>.</u>			
W/O:			W	ORK ORDER CHANG	EŜ				-
DATE STEP		PROCEDURE CHANGE				Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
							·		•
Part No	•	PAR #:	Fault Cat	egory:	NCR: Yes	No DQA	۸:	Date:	
	R	esolution:	Dispositi	on:	_ QA: N/C C	osed:		Date: _	
NCR:	:	,	WORK ORI	DER NON-CONFORMA	NCE (NCF	₹)			
DATE	STEP	Description of NC		Corrective Action Section		Verific		Approval	Approval
DAIL	SILI	Section A	Initial Chief Eng	Action Description Chief Eng	Sign 8 Date		on C	Chief Eng	QC Inspector
		- - - -							
,									
							•		



Dart Aerospace Ltd	td	L	ce	a	D	S	·O	er	A	rt	a	D
--------------------	----	---	----	---	---	---	----	----	---	----	---	---

W/O:		WORK ORDER CHANGES											
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval C Inspector						
							4.						
	,												
•						4							
						ace	1						

Part No:	. •	PAR #:	_ Fault Category: _	NCR: Yes No DQA:	Date:	
	Reśolution: _		_ Disposition:	 QA: N/C Closed:	<i>(</i> Date:	

NCR:		W	ORK OR	DER NON-CONFORMANCE (NCR)
DATE	STEP	Description of NC Section A	Initial Chief Eng	Corrective Action Section B Action Description Chief Eng Chief Eng
			The second secon	
,				



LIQUID PENETRANT TEST REPORT

P- 15196

ACUREN	2,000			•.
	1		PAGE	OF
CLIENT	PART HEROSTACE	DATE	001-14-2010 TIME	AM PM D
ATTENTION	LINDA / CHANTEL	ACUREN JOB NO.	188-10-0	418
	270 ABEL DEENST.	PO/WO No.	,	
ADDRESS / 1/	an Kes Bury ON.		HAUKES BUNY	
_!+^	enoves parely Op.	ACCEPTANCE STD	45 CM 1417 REV./DA	TE Z 005
	FPT	ACCEPTANCE STD.g_	SI TUBES	
PROJECT		∞ $CC0$	// (a)=0	
ITEM(S) EXAMINED		\widehat{AD}		
		(4)		
JOB DESCRIPTION	PROCEDURE NO. LT-0002REV./DATE		CHNIQUE NO. LT-1642REV./DA	TE 7008
PART No.	,		OF ALWANDER THICKNESS	<u> </u>
SCOPE WET		D FENET	RANT CARRIES)
	047 02 100% E	X TELNA	L SURFACE	
TEST DETAILS				
METHOD	FLUORESCENT	WATER WASH	□ SOLVENT REMOVABLE	POST EMULSIFIED
FAMILY BRAND	MAGNAFLUX	BLACK LIGHT S/N	6439 OUTPUT > 1000 μW/cm ²	AMBIENT < 2 fc
PENETRANT ZL	67 MINIMUM DWELL TIME 4.510 MIN.	LIGHTING EQUIP. U	FLASHLIGHT TROUBLELIGHT OUT	1P012100 10 @ 3011 7/02
PENETRANT REMOVER	HOC MINIMUM DRY TIME >10 MIN. K() (C) MINIMUM DWELL TIME 10 MIN.	LIGHT METER S/N	1098866 CALD	JE DATE
DEVELO: 2.1	Non Aqueous	Light Market	0-7-1	9-2010
TEST SURFACE		/		
	☐ AS GROUND ☐ AS WELDED	MACHINED	3 0:101 DE 10:125	CLEAN BARE METAL
SURFACE TEMPERATURE	□ < - 4°C/ 20°F TO 10°C/50°	F	☐ 10°C/50°F TO 52°C/125°F ☐	> 52°C/125°F
RESULTS-	(METRIC IMPERIAL)			
				•
				* * * * * * * * * * * * * * * * * * *
1 Closs 7	UBE-WO. 61739.			
	4			
1 CONSST	BE-W.O.61738 V			
1 100,000	6BE-60.0.62179.	13	-10-17	
<u> </u>		2		
1 Closs 7	1821106091 /			
1 00001	40L, W. C. V38	1		
			•	
Scope of Services	to perform services extends only to those services provided for in writing. Und	er no circumstances shall such	services extend beyond the performance of the requeste	d services. It is expressly understoo
that all descriptions, comments and	expressions of opinion reflect the opinions of observations of Active Croup inc.	ownerlongrator retains count	lete responsibility for the engineering, manufacture, repo	ended nor can they be construed as air and use decisions as a result of t
data or other information provided b	y Acuren Group Inc. In no event shall Acuren Group Inc. s namuly in respect of	ine seria es rejerien armeren	,	
In performing the services provided.	Acuren Group Inc. uses the degree, care and skill ordinarily exercised under sin	illar circumstances by others p	performing such services in the same or similar locality.	No other warranty, expressed or
implied, is made or intended by Acua	en Group Inc.			
SIGNATURES		fert =	DTR# =	63396
CLIENT REPRESENTATIV	E Tan Hey	SIGNATURE	DIR#	0110
TECHNICIAN (SIGNATURE):	C-Print		REPORT	
	MUR THUCK	-	REVIEWED BY:	INITIALS
NAME (PRINT):	181 JECHNICIAN	2 th TECHNICIAN	TATIVIL	
	CGSB LEVEL SNT LEVEL CGSB LE		VEL	
1	CGSB REG. NO (0/0 (0 CGSB R	eg. No		